

REMARKS

The Office Action dated April 10, 2006 has been received and carefully noted. The above noted amendments to the claims, and the following remarks, are submitted as a full and complete response thereto. Claims 1-45 and 48-61 are pending and submitted herewith for consideration.

Claims 1-3, 5, 7, 8, 10, 13-15, 17, 19, 20, 22, 32-34, 37, 39-10, 44, 45, 46, 49, 50, 53, 56, and 62 stand rejected under 35 U.S.C. §103(a) as being obvious over *Moreton* (US Publication No. 2004/0013128) in view of *Cervello* (US Publication No. 2002/0060995). The Office Action took the position that *Moreton* teaches each and every element recited in the rejected claims, except for processing the transmitted communication information and determining a connection capability based upon the communication information. However, the Office Action cites to *Cervello* as teaching this feature, and as such, the Office Action concluded that it would have been obvious to one of ordinary skill in the art to have combined the teaching of the references to generate Applicants' claimed invention. Applicants traverse the rejection and respectfully submit that the cited combination of references, when taken alone or in combination, fails to teach, show, or suggest each and every limitation recited in claims 1-3, 5, 7, 8, 10, 13-15, 17, 19, 20, 22, 32-34, 37, 39-10, 44, 45, 46, 49, 50, 53, 56, and 62.

Applicants' independent claim 1 recites a method of deciding on performing a communication connection changeover of a subscriber terminal in a wireless communication network. The method includes detecting communication information

from at least one access node, the communication information comprising frequency band information indicating at least one frequency band where said at least one access node is capable to communicate. The method further includes transmitting the communication information from the at least one access node to a subscriber terminal by signaling, and processing the transmitted communication information and determining, based on the communication information, a communication connection capability of at least part of the at least one access node on the basis of the frequency band information. Further still, the method includes using the processing result for a decision on a communication connection changeover of the subscriber terminal.

Applicants' independent claim 13 recites a system for deciding on performing a communication connection changeover of a subscriber terminal. The system includes detecting means for detecting and transmitting communication information from said at least one access node to a subscriber terminal, said communication information comprising frequency band information indicating at least one frequency band where said at least one access node is capable to communicate, wherein said detecting means for detecting and transmitting the communication information of the at least one access node are adapted to incorporate the communication information in a signaling to said subscriber terminal. The system further includes processing means for processing the transmitted communication information so as to determine based on the communication information a communication connection capability of at least part of the at least one access node on the basis of the frequency band information, and means for deciding on a

communication connection changeover of the subscriber terminal by using the processing result.

Applicants' independent claim 32 recites a subscriber terminal for communicating in a wireless communication network. The subscriber terminal includes a receiving device configured to receive communication information transmitted from at least one access node, the communication information comprising frequency band information indicating at least one frequency band where at least one access node is capable to communicate, and being transmitted from the at least one access node to the subscriber terminal by signaling. The terminal further includes a processing device configured to process the transmitted communication information so as to determine, based on the communication information, a communication connection capability of at least part of the at least one access node on the basis of the frequency band information, and a decision device configured to decide on a communication connection changeover of the subscriber terminal by using a processing result.

Applicants' independent claim 44 recites a computer program embodied on a computer readable medium, that when executed by a processor, is configured to control a method that includes detecting and transmitting communication information to a subscriber terminal, the communication information comprising frequency band information indicating at least one frequency band where at least one access node is capable to communicate. The method further includes incorporating the communication information in a signaling to said subscriber terminal.

Applicants' independent claim 45 recites a computer program embodied on a computer readable medium, that when executed by a processor, is configured to control a method that includes receiving communication information transmitted from at least one access node, said communication information comprising frequency band information indicating at least one frequency band where at least one access node is capable to communicate, and being transmitted from at least one access node to a subscriber terminal by signaling, and processing the transmitted communication information to determine, based on the communication information, a communication connection capability of at least part of the at least one access node on the basis of the frequency band information. The method further includes deciding on a communication connection changeover of the subscriber terminal by using a result of the processing.

Applicants' independent claim 49 recites a method usable in a subscriber terminal entity for a changeover decision procedure. The method includes receiving communication information from at least one access node, said communication information comprising frequency band information indicating at least one frequency band where at least one access node is capable to communicate, by signaling. The method further includes processing the transmitted communication information and determining based on the communication information a communication connection capability of at least part of the at least one access node on the basis of the frequency band information, and using the processing result for a decision on a communication connection changeover of a subscriber terminal.

Applicants submit that each of the above noted independent claims recite subject matter that is not taught, shown, or otherwise suggested by the combination of *Moreton* and *Cervello*.

More particularly, *Moreton* teaches a multi-mode access point and a method of controlling access between that access point and one or more clients. In a first time period, the access point commands the client not to send data on a first channel, using, for example, the 802.11a Wireless Local Area Network (WLAN) Standard. The access point is enabled, in that first time period, to receive data on a second channel using the 802.11b WLAN standard. At the end of the first time period, the access point switches so that the first channel is commanded to be silent while data can instead be sent via the second channel. Data queuing for a given channel can take place at each client when that channel is commanded to be silent, for subsequent transmission when that channel is enabled again. Therefore, *Moreton* teaches a method of controlling access to a communications medium wherein an IEEE 802.11 environment is used. In *Moreton*, the access point commands mobile nodes not to send data on a first channel during a first time period. Instead, the AP is enabled to receive a data on a second channel. As indicated in the abstract of reference *Moreton*, the first channel the 802.11a WLAN standard, while the second channel may use the 802.11b WLAN standard.

Cervello teaches a method and system for dynamically selecting a communication channel between an access point and a plurality of stations in an IEEE 802.11 wireless local area network. The method includes the steps of determining whether a new channel

between the access point and the stations within a particular basic service set is needed, and requesting a channel signal quality measure to some of the plurality of stations by the access point. The method further includes reporting a channel signal quality report back to the access point based on a received signal strength indication and a packet error rate of all channels detected by the stations within the basic service set selecting a new channel based on the channel quality report for use in communication between the access point and the plurality of stations. Thus, *Cervello* is directed a dynamic channel selection scheme for IEEE 802.11 WLAN. In paragraph [0009] of *Cervello*, a method of dynamically selecting a communication channel is described wherein a channel signal quality measure is performed, the result of which is used for selecting a new channel..

However, Applicants submit that neither *Moreton* nor *Cervello*, when taken alone or in combination, teach, show, or suggest processing or determining, based on a transmitted communication, information regarding a communication changeover capability of an access point, as recited in each of the above noted independent claims. More particularly, each of the above noted independent claims recites processing the transmitted communication information, and determining, based on the communication information, a communication connection capability of at least part of at least one access node on the basis of the frequency band information, and further, using the result of the processing in a decision on a communication connection changeover of the subscriber terminal. Neither *Moreton* nor *Cervello* teach, show, or suggest this feature, and therefore Applicants submit that each of the above noted independent claims recites

subject matter that is not taught, shown, or otherwise suggested by the cited combination of references. As such, reconsideration and withdrawal of the rejection of Applicants' independent claims 1, 13, 32, 44, 45, and 49, along with each claim depending therefrom, is respectfully requested.

Additionally, *Moreton* teaches that the network provides access to 2.4 GHz and 5 GHz band stations simultaneously, as described in paragraph [0052]. Moreover, the access point described in *Moreton* has an 802.11 MAC layer having associated therewith two physical layers which correspond to the 2 GHz band and 5 GHz bands respectively, as described in paragraph [0068]. Therefore, Applicants submit that one of ordinary skill in the art would not conclude from *Moreton* that the access point transmits "communication information" indicating whether the access point is capable to communicate on at least one other frequency band. Applicants submit that taking such an action is completely unnecessary and illogical for the dual band access point described in *Moreton*, as it is defined that the access point already communicates on both bands.

Conversely, according to the invention recited in the above noted independent claims, the communication information regarding the frequency band of the access point is used to support the decision to perform a handover to another frequency band if the current frequency band is unavailable at the access point. In the system according to *Moreton* such a dual frequency band is already present, and as such, the recited "communication information" and changeover is not taught, disclosed, or suggested. Rather, *Moreton* only describes that the access point inhibits the usage of certain

frequency channels for a specific time period. Therefore, Applicants submit that the “communication information” recited in each of the above noted independent claims is not taught, shown, or otherwise suggested by the cited combination of references.

Further, with reference to *Cervello*, Applicants note that the cited reference does not teach, show, or suggest that communication information regarding a capability of an access point for communicating on a specific frequency band is transmitted by the access point or used in the decision for a handover. Rather, the teaching of *Cervello* is directed to channel measurements, not that of frequency bands, and therefore, Applicants submit that *Cervello* does not teach, show, or suggest the sending of the communication information, or using of the communication information to make a decision on a changeover, as recited in each of the above noted independent claims. Therefore, reconsideration and withdrawal of the rejection of independent claims 1, 13, 32, 44, 45, and 49, along with each claim depending there from, is respectfully requested.

In conclusion, Applicants submit that *Moreton* fails to teach, show, or suggest the transmitting of the communication information to the access node, and making a changeover decision based upon the communication information, as recited in each of independent claims 1, 13, 32, 44, 45, and 49. Further, Applicants submit that *Cervello* also fails to teach, show, or suggest these limitations, and as such, Applicants submit that *Cervello* fails to further the teaching of *Moreton* to the level necessary to properly support an obviousness rejection of the claims. Therefore, reconsideration and

withdrawal of the rejection of claims 1-3, 5, 7, 8, 10, 13-15, 17, 19, 20, 22, 32-34, 37, 39-40, 44, 45, 46, 49, 50, 53, 56, and 62 is respectfully requested.

Claims 4, 6, 18, 52, and 55 stand rejected under 35 U.S.C. §103(a) as being obvious over *Moreton* and *Cervello*, further in view of *3GPP TS 25.331, v3.12.0* (2002-09), hereinafter *3GPP*. The Office Action took the position that *Moreton and Cervello* teach each and every element recited in claims 4, 6, 18, 52, and 55, except for the multiple band indicator. However, the Office Action cites to *3GPP* as teaching this feature, and as such, the Office Action concluded that it would have been obvious to one of ordinary skill in the art to have combined the teaching of the references to generate Applicants' claimed invention. Applicants traverse the rejection and respectfully submit that the cited combination of references, when taken alone or in combination, fails to teach, show, or suggest each and every limitation recited in claims 4, 6, 18, 52, and 55.

Independent claims 1 and 13, the independent claims from which claims 4, 6, 18, 52, and 55 depend are presented above. Additionally, *Moreton* and *Cervello* are also discussed above.

3GPP is a collaboration agreement that was established in December 1998. The collaboration agreement brings together a number of telecommunications standards bodies which are known as "Organizational Partners". The establishment of *3GPP* was formalized in December 1998 by the signing of the "The 3rd Generation Partnership Project Agreement". The original scope of *3GPP* was to produce globally applicable Technical Specifications and Technical Reports for a 3rd Generation Mobile System

based on evolved GSM core networks and the radio access technologies that they support (*i.e.*, Universal Terrestrial Radio Access (UTRA) both Frequency Division Duplex (FDD) and Time Division Duplex (TDD) modes). The scope was subsequently amended to include the maintenance and development of the Global System for Mobile communication (GSM) Technical Specifications and Technical Reports including evolved radio access technologies. The specific paragraph of *3GPP* cited by the Examiner, *i.e.*, paragraph 8.1.16.3, is directed to a message sent from the user equipment to the network (see Fig. 8.1.16-1).

However, *3GPP* does not teach sending the message in the same direction recited in the rejected claims of the present application. Rather, the message recited in the claims of the present application is sent from the network to the user equipment, which is completely opposite from that which is taught by *3GPP*, *i.e.*, transmitting the message from the user equipment to the network. Further, transmitting of the communication information to the access node, and making a changeover decision based upon the communication information is also not taught, disclosed, or otherwise suggested by *3GPP*, and therefore, Applicants submit that *3GPP* fails to further the teaching of *Moreton* and *Cervello* to the level necessary to properly support an obvious rejection. As such, reconsideration and withdrawal of the rejection of claims 4, 6, 18, 52, and 55 is respectfully requested.

Claims 9, 21, and 40 stand rejected under 35 U.S.C. §103(a) as being obvious over *Moreton* and *Cervello*, further in view of *Holeman* (US Publication No. 2003/0108006).

The Office Action took the position that *Moreton and Cervello* teach each and every element recited in claims 9, 21, and 40, except for the changeover decision being made by the subscriber terminal. However, the Office Action cites to *Holeman* as teaching this feature, and as such, the Office Action concluded that it would have been obvious to one of ordinary skill in the art to have combined the teaching of the references to generate Applicants' claimed invention. Applicants traverse the rejection and respectfully submit that the cited combination of references, when taken alone or in combination, fails to teach, show, or suggest each and every limitation recited in claims 9, 21, and 40.

Independent claims 1, 13, and 32, the independent claims from which claims 9, 21, and 40 depend are presented above. Additionally, *Moreton and Cervello* are also discussed above.

Holeman teaches a method of effecting handoff of a mobile station from a first base station in a first cellular communications system controlled by a first mobile switching control station to a second base station in a second, different cellular system controlled by a second mobile switching control station. The method includes measuring, at the mobile, station a parameter of a signal transmitted by the first base station and a parameter of a signal transmitted by the second base station. When the parameters reach a predetermined condition, a signal quality message is communicated from the mobile station via the first base station to the first mobile switching control station, which responds by generating information for a channel request message for the second mobile switching control station and transmitting the same to the mobile station. The mobile

station generates from the information a channel request message for the second mobile switching control station and transmits the same to the second mobile switching control station. The second mobile switching control station generates channel information identifying a channel in the second communications system for the mobile station so that the handoff may be affected.

However, *Holeman* does not teach, show, or suggest processing or determining, based on a transmitted communication, information regarding a communication changeover capability of an access point, as recited in claims 1, 13, and 32, the independent claims from which each of claims 9, 21, and 40 depend. More particularly, each of the above noted independent claims recites processing the transmitted communication information, and determining, based on the communication information, a communication connection capability of at least part of at least one access node on the basis of the frequency band information, and further, using the result of the processing in a decision on a communication connection changeover of the subscriber terminal. As noted above, *Moreton* and *Cervello* fail to teach, show, or suggest this feature, and since *Holeman* also fails to teach, show, or suggest these features, Applicants submit that *Holeman* fails to further the teaching of *Moreton* and *Cervello* to the level necessary to properly support an obviousness rejection of claims 9, 21, and 40. Therefore, reconsideration and withdrawal of the rejection of claims 9, 21, and 40 is respectfully requested.

Claims 11, 23, and 42 stand rejected under 35 U.S.C. §103(a) as being obvious over *Moreton* and *Cervello*, further in view of *Auckland* (US Publication 2003/0078037). The Office Action took the position that *Moreton and Cervello* teach each and every element recited in claims 24 and 43, except for the specific frequency band of the neighboring access node. However, the Office Action cites to *Auckland* as teaching this feature, and as such, the Office Action concluded that it would have been obvious to one of ordinary skill in the art to have combined the teaching of the references to generate Applicants' claimed invention. Applicants traverse the rejection and respectfully submit that the cited combination of references, when taken alone or in combination, fails to teach, show, or suggest each and every limitation recited in claims 11, 23, and 42.

Independent claims 1, 13, and 32, the independent claims from which claims 11, 23, and 42 depend, are discussed above. Additionally, *Moreton* and *Cervello* are discussed above. *Auckland* teaches subscriber units and base stations of telecommunication systems that are equipped with RF to IF (EXA) circuit boards which provide complete flexibility for radio communication. The boards communicate on an air interface standard (CDMA, TDMA, Bluetooth, 3G cellular, etc.) at any frequency or band of frequencies. Separate, independent forward and reverse channels may be assigned, each having its own air interface and frequency band. When a call is initiated, a set of optimum forward and reverse channels are assigned, taking into account relevant factors such as traffic, subscriber requirements for high speed data, etc., so that the channel assignment is tailored to the current communication needs. Channel

assignment is updated as needs change, as other channels become available, and at handoff.

However, *Auckland* does not teach, show, or suggest processing or determining, based on a transmitted communication, information regarding a communication changeover capability of an access point, as recited in claims 1, 13, and 32, the independent claims from which each of claims 11, 23, and 42 depend. More particularly, each of the above noted independent claims recites processing the transmitted communication information, and determining, based on the communication information, a communication connection capability of at least part of at least one access node on the basis of the frequency band information, and further, using the result of the processing in a decision on a communication connection changeover of the subscriber terminal. As noted above, *Moreton* and *Cervello* fail to teach, show, or suggest this feature, and since *Auckland* also fails to teach, show, or suggest this feature, Applicants submit that *Auckland* fails to further the teaching of *Moreton* and *Cervello* to the level necessary to properly support an obviousness rejection of claims 11, 23, and 42. Therefore, reconsideration and withdrawal of the rejection of claims 11, 23, and 42 is respectfully requested.

Claims 24 and 43 stand rejected under 35 U.S.C. §103(a) as being obvious over *Moreton* and *Cervello*, further in view of *Monin* (US Publication 2002/0197984). The Office Action took the position that *Moreton* and *Cervello* teach each and every element recited in claims 24 and 43, except for processing communication information

transmitted from two or more access nodes in the wireless communication network. However, the Office Action cites to *Monin* as teaching this feature, and as such, the Office Action concluded that it would have been obvious to one of ordinary skill in the art to have combined the teaching of the references to generate Applicants' claimed invention. Applicants traverse the rejection and respectfully submit that the cited combination of references, when taken alone or in combination, fails to teach, show, or suggest each and every limitation recited in claims 24 and 43.

Independent claims 13 and 32, the independent claims from which claims 24 and 43 depend, are discussed above. Additionally, *Moreton* and *Cervello* are also discussed above. *Monin* teaches an apparatus for mobile communications that includes a plurality of wireless local area network (WLAN) access points at physical locations and linked together in a network. The access points have logical identities assigned thereto, and the logical identities define channels for use by mobile stations in a vicinity of the network in communicating over the air with the access points. A control unit is coupled to convey signals over the network so as to alter the logical identities assigned to one or more of the access points.

However, *Monin* does not teach, show, or suggest processing or determining, based on a transmitted communication, information regarding a communication changeover capability of an access point, as recited in claims 13 and 32, the independent claims from which each of claims 24 and 43 depend. More particularly, each of the above noted independent claims recites processing the transmitted communication

information, and determining, based on the communication information, a communication connection capability of at least part of at least one access node on the basis of the frequency band information, and further, using the result of the processing in a decision on a communication connection changeover of the subscriber terminal. As noted above, *Moreton* and *Cervello* fail to teach, show, or suggest this feature, and since *Monin* also fails to teach, show, or suggest this feature, Applicants submit that *Monin* fails to further the teaching of *Moreton* and *Cervello* to the level necessary to properly support an obviousness rejection of claims 24 and 43. Therefore, reconsideration and withdrawal of the rejection of claims 24 and 43 is respectfully requested.

Claim 51 stand rejected under 35 U.S.C. §103(a) as being obvious over *Moreton* and *Cervello*, further in view of *Awater* (US Publication No. 2001/0010689). The Office Action took the position that *Moreton* and *Cervello* teach each and every element recited in claim 51, except for the probe request and probe response. However, the Office Action cites to *Awater* as teaching this feature, and as such, the Office Action concluded that it would have been obvious to one of ordinary skill in the art to have combined the teaching of the references to generate Applicants' claimed invention. Applicants traverse the rejection and respectfully submit that the cited combination of references, when taken alone or in combination, fails to teach, show, or suggest each and every limitation recited in claim 51.

Claim 1, the independent claim from which claim 51 depends, is discussed above. Additionally, *Moreton* and *Cervello* are also discussed above. Further, *Awater* teaches

introduction of an interoperability device into a communication system that integrates an IEEE 802.11 transceiver and a Bluetooth transceiver. The device prevents that one transceiver is transmitting while the other is receiving, which would cause interference at the receiving transceiver. In addition, the device preferably prevents that both systems are transmitting at the same time to avoid interference at the receiving device(s). Optionally the device prohibits simultaneous reception of both transceivers. In that way the radio receiver can be shared between the devices, allowing a cheaper and smaller hardware design.

However, *Awater* does not teach, show, or suggest processing or determining, based on a transmitted communication, information regarding a communication changeover capability of an access point, as recited in claim 1, the independent claim from which claim 51 depends. More particularly, independent claim 1 recites processing the transmitted communication information, and determining, based on the communication information, a communication connection capability of at least part of at least one access node on the basis of the frequency band information, and further, using the result of the processing in a decision on a communication connection changeover of the subscriber terminal. As noted above, *Moreton* and *Cervello* fail to teach, show, or suggest this feature, and since *Awater* also fails to teach, show, or suggest this feature, Applicants submit that *Awater* fails to further the teaching of *Moreton* and *Cervello* to the level necessary to properly support an obviousness rejection of claim 51. Therefore, reconsideration and withdrawal of the rejection of claim 51 is respectfully requested.

Claim 25 stand rejected under 35 U.S.C. §102(e) as being anticipated by *Moreton* (U.S. Publication No. 2004/00131128). The Office Action took the position that *Moreton* teaches each and every element recited in claim 25. Applicants traverse the rejection and respectfully submit that claim 25 recites subject matter that is not taught or disclosed by *Moreton*.

Independent claim 25 recites an access node for a wireless communication network. The access node includes a detecting device configured to detect and transmit communication information to a subscriber terminal, said communication information comprising frequency band information indicating at least one frequency band where at least one access node is capable to communicate, wherein said detecting device is further configured to incorporate the communication information in a signaling to the subscriber terminal.

Moreton is discussed above. However, *Moreton* does not teach or disclose transmitting communication information that includes frequency band information indicating where a node is capable of communicating to a subscriber terminal, and incorporating the above noted communication information in a signaling to the subscriber terminal, as recited in independent claim 25. As such, Applicants submit that *Moreton* fails to teach or disclose each and every element recited in claim 25. Therefore, reconsideration and withdrawal of the rejection of claim 25 is respectfully requested.

In conclusion, Applicants submit that each of the pending claims in the present application recite subject matter that is not taught, shown, or otherwise suggested by the

cited combination of references. As such, reconsideration and withdrawal of the rejections is respectfully requested. Claims 1-45 and 48-61 are pending and submitted for consideration.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'N. Alexander Nolte', is written over a horizontal line.

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Enclosures: Petition for Extension of Time (1 month)